RWB

140073

MEMORANDUM

VIRGINIA WATER CONTROL BOARD

Valley Regional Office

116 North Main St. - P.O. Box 268 Bridgewater, VA 22812

SUBJECT: Spring 1988 Biological Monitoring Results - VRO

TO: R. F. Tesh/VRO

FROM: R. W. Bolgiano RWB

DATE: 2 June 1988

COPIES: M. Shelor, OERS

Attached are results of the Region's Spring 1988 Biological Monitoring and narrative. We were only able to survey 27 stations this season due to heavy rains in May (approx. 7.5 inches of rain).

Several stations appeared to have deteriorated slightly from previous seasons. Most notably, Abrams Creek (and Opequon downstream of Abrams), the South River downstream of the Waynesboro STP, and Stony Creek downstream of the poultry processing plant discharge point. Abrams Creek apparently suffered a massive die-off among its previously dominant Tubifex sp community. There appears to be no confirming evidence for a cause to be found in DMR's from the upstream dischargers. The new municipal plant should be on line by next fall. Upgrades of treatment plants are also in the works for the South River and Stony Creek.

On the positive side, both the North River and the Calfpasture River appear to have improved at their "downstream" stations Whether these results are indicative of trends remains to be seen.

Finally, I was again unable to confirm the results obtained by R. Voshell in his quantitative survey on the Piney River. He has postulated "strong recovery at Site C" (same as my recovery station). My results suggest that only about half of the taxa richness and density of the control can be found at this station approximately 6.6 km downstream of U. S. Titanium. I just don't know where those bugs could be hiding.

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Attachments

301747

Valley Region

POTOMAC RIVER BASIN

Abrams Creek - The benthic community at the single station on this stream has consistently reflected the effects of the overloaded and antiquated municipal STP which discharges approximately three miles upstream. Tolerant organisms (especially Tubificidae) have usually dominated the benthic community. This spring there were only three individual organisms present. Other than bacteria, the stream was practically dead. Water quality was again judged to be poor.

Opequon Creek - Two stations on Opequon Creek were monitored this spring. The control station was again judged to have a community structure indicative of fair to good water quality similar to that seen last fall. The downstream station appeared to support the Abrams Creek results in that the benthic community was in even a poorer condition than previously. The downstream station has a history of fair or fair to poor water quality but rated only a poor designation this spring.

SHENANDOAH RIVER BASIN

Blacks Run - The single station on Blacks Run was the only station monitored late in the season after a significant rain/flushing event occurred in the middle of May. The results indicate that the stream continues to support a benthic community indicative of water quality in the poor range. Urban and construction related nonpoint sources are the likely causes of this situation.

Cedar Creek - Only the downstream station on Cedar Creek was monitored this spring. The benthic community observed indicated that the stream continues to have good quality water. The community scores earned during spring surveys have been very consistent over the years.

Cooks Creek - The community structure exhibited at the Cooks Creek station continues to reflect the effects of agricultural nonpoint sources. Water quality was again judged to be poor. The results of monitoring have been quite consistent over the last two years.

North Fork Shenandoah River - There are currently five monitoring stations on the North Fork, two controls upstream of the Broadway-Timberville cluster of discharges, two downstream, and one station nearly 80 river miles downstream near the confluence with the South Fork Shenandoah River in Front Royal. Water quality was again judged to be good at the Brocks Gap station, consistent with previous surveys. The second control station upstream of the Broadway municipal discharge continued its long term pattern of fair to good water quality each spring and good water quality in the fall. The third station just upstream of the Timberville discharge point again contained a benthic community indicative of fair water quality. Channelization of this river reach in the spring of 1986 still

appears to limit the habitat available to some organisms. The fourth station near New Market appeared to have lost a significant component from the sensitive group. Water quality was judged to be only fair down from fair to good in previous spring surveys. The community structure was extremely diverse and numbers of organisms very high at the most downstream station near Front Royal. Water quality was judged to be good, consistent with all previous surveys with the exception of the fall of 1986 when only a fair rating was earned.

North River - The benthic communities of the two stations which bracket the Regional STP have both improved somewhat over their previous conditions. The control station again earned a good water quality rating with a community score significantly higher than previously seen. The downstream station exhibited a community structure indicative of fair to good water quality, up from the fair ratings of the past.

Pleasant Run - The community structure seen at the single station on Pleasant Run continues to earn the stream a fair to poor water quality rating. Results have been fairly consistent over the past few years.

Shenandoah River - The single station on the Shenandoah River near the Route 7 bridge continues to exhibit a benthic community indicative of good water quality. This station is approximately 30 river miles downstream of any significant discharge point.

South River - The control upstream of the Waynesboro discharge cluster continues to have a benthic community indicative of good water quality. The station downstream of the two major industrial discharges has gradually improved from the fair ratings of the past two years to a fair to good score this spring. The station downstream of the municipal discharge has unfortunately slipped into the poor water quality range, down from fair to poor and fair ratings in the past. Upgrade bids are about to be solicited by the city.

Stony Creek - The two stations on Stony Creek bracket a poultry processing plant wastewater lagoon discharge. The upstream station continues to have a community structure indicative of good water quality. The downstream station exhibited a benthic community indicative of only fair water quality. Historically, this station has earned good or fair to good ratings.

JAMES RIVER BASIN

Brattons Run - The two stations on Brattons Run bracket a creosote and CCA wood treatment yard. There are no permitted discharges. The control station's community structure is indicative of good water quality. This station has previously scored good or occasionally fair to good. The downstream station continues to exhibit a benthic community dramatically reduced in taxa richness and overall density. Water quality, in the past usually judged to be fair to poor, was poor this spring as it was last fall.

Calfpasture River - The two stations on the Calfpasture River bracket its confluence with Brattons Run. The control station continued its past record of community scores indicative of good water quality. The station approximately one-half mile downstream of Brattons Run contained a benthic community noticeably reduced in taxa richness among the sensitive group but still good enough to earn a good water quality rating. This station has previously been judged to contain fair to good water quality, thus indicating the effects of Brattons Run on the river.

Piney River - There are three stations on the Piney River which characterize the impact of nonpoint source contamination from the United States Titanium manufacturing site. The control station continues to have a benthic community indicative of good water quality. The station downstream of the mixing zone of plant site runoff continues to exhibit a dramatic reduction in taxa richness and densities of both sensitive and facultative groups. Water quality was judged to be only poor at this station, consistent with previous surveys. The third station, over six km downstream, contained a community structure indicative of fair to poor water quality, down from previous ratings of fair.